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(Accompanied by a Provisional Specification)

Complete Specification entitled (54) IMPROVEMENTS IN PORTABLE CONVEYORS.

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Related Art (56)

249,097(4100/61)	95.5; 97.80; 59.6
246,971(61,769/60)	90.5; 59.6
254,046(53,386/59)	59.6.

The following statement is a full description of this invention, including the best method of performing it known to us :

19682/71—4. W. G Murray, Government Printer, Canberra

101-1D-16/9/71-10P.C.

This invention relates to portable conveyors which are adapted to be used for many conveying purposes, such as for unloading articles from trucks, storage places, and for many other uses.

The invention has been devised to provide a novel form of portable conveyor which can be rolled up easily in the manner of a carpet or mat when not required for use, and occupies a minimum of space for storage, and can be quickly unrolled and put into service. Said conveyor can be shaped into various forms to suit a range of requirements , and can be adapted for use in various locations.

This portable conveyor is of light form able to be easily handled and at the same time is strong and durable, and the length adjusted to suit particular needs. Said conveyor can be reversed to form a handy carrier. Other advantages will be apparent from the following description.

According to this invention a portable conveyor comprises supporting side members uniformly longitudinally and transversely on said conveyor spaced at required intervals apart, and each being formed of a series of supporting links having ends adapted for partial movement in a plane perpendicular to the transverse axis of the conveyor and only in one angular direction with respect to the longitudinal axis of the conveyor ~~formed at their ends~~ for pivotal or hinged connection together in a ~~manner~~ whereby they can be bent in one direction only in effecting folding; cross tie rods or bars connecting opposite links of said side members together; and rollers rotatably mounted between and on each pair of opposite links so as to project thereabove and being located on that side on which said conveyor cannot be bent in folding.

The portable conveyors can be made in any required lengths, and such lengths connected together by any suitable means to form additional length requirements.

In order to describe the invention more fully reference will now be made to the accompanying drawings wherein:-

Figure 1 is a side elevation of a portion of the portable conveyor shown in a straight line arrangement.

Figure 2 is a part-sectional plan of one side of the portable conveyor showing the arrangement of rollers, axles and bearings tie rods and a connecting link embodied.

Figure 3 is an end elevation of the conveyor, while

Figure 4 is a side elevation of two adjacent links with rollers fitted and showing how the links are permitted to pivot or hinge in one direction only.

Figure 5 is a perspective view of a single link.

The portable conveyor has its supporting side members each formed as a series of links generally indicated by the reference numeral 6 , and which are of any suitable material for their purpose , as for example they may be of diecast aluminium or any suitable synthetic resin. ~~or the like.~~ Said links 6 include a flat base from which a pedestal-like formation extends having a top portion 7 with an orifice 8 therein , and the sides may be recessed as shown in Figure 5 , while at one end there is a medially positioned tongue or lug 9(hereinafter termed lug) having a stop 10 formed on the upper part of the end, and there is a connection hole 11 therein, while the other end of said link 6 is formed with a pair of forks 12 ,the distance apart is such as to receive therebetween the lug 9 of an adjacent link 6 of an assembly in a freely pivotal manner as later described. In the space between the forks 12 where is an abutment step 13 in the lower portion formed so as to be engaged with the stop 10 of a lug 9 pivoted therein so that in an assembly of the side supporting members the links 6 constituting same can only pivotally

move angularly in one direction as seen in Figure 4. The said forks 12 also have a connection hole 11 extending therethrough. The lower end edge of both the lugs 9 and the forks 12 of the links 6 are rounded over as shown clearly in Figure 5 to permit of free pivotal movement.

These links 6 when assembled together in oppositely arranged positions are connected transversely together by tie rods 14 the ends of which are fitted through the registered connection holes 11 in the respective lugs 9 and forks 12 as will be appreciated from the drawings, and the ends of the tie rods 14 are secured in place by securing washers or other suitable known means of affixture against endwise displacement.

In some cases one or more links of a series in an assembly may be arranged as a connector link and fitted with a bolt 15 passed through the connection holes 11 of a pair of forks 12 and a lug 9 and provided with a locking wing nut 16 as shown in Figures 1 and 2 to permit of reduction or extension of the length of the conveyor, or such links may be provided at one or both ends of the ~~side~~ flexible longitudinal members of the conveyor for connection of a further length or section thereto.

The roller means of the conveyor are arranged at the top portion 7 of each link 6, and include a fixed axle 17 which is affixed at its reduced or shouldered ends (as shown in Figure 2) in the hole 8 of the opposite top parts 7 of each pair of links 6, ~~a~~ a ball bearing unit 18 is fitted inwardly of each axle end to mount each roller 19 in place on its fixed axle 17 in a freely rotatable manner so that same forms a freely revolving support for the easy conveyance of articles along a conveyor . These rollers 19 may be of any suitable material according to the purpose requirement.

The conveyors can be reversed, that is turned over so that the rollers 19 run on a floor or other surface and the said conveyor can be used as a handy carrier for goods, and one end lifted up to provide a convenient grip at its end for pulling the conveyor along.

These conveyors can be led over raised parts or inclined, led up steps and the like and over articles and provide an uninterrupted conveying surface.

In some cases where the conveyor is inclined up or down or bridges gaps or leads up to elevated parts, supports may be placed thereunder at the side supporting members, particularly is heavy loads have to be travelled therealong.

By reason of the flexibility of the conveyor in one direction it can adjust automatically to suit a convexly curved surface ~~the surface~~ on which it is supported and will bridge a concavely curved surface.

In some cases the conveyor may be formed in short sections or units as for the leading out of cables and the like from a drum, and the units placed at any required interval apart.

In certain layouts of the conveyor one or more conveyors may be arranged to lead at right angles from another so that articles cargo and the like can be received from different locations, and delivered to a common point and so on according to purpose requirements and it is not possible to detail herein the various methods of employment of said conveyors.

The claims defining the invention are as follows:-

1. A portable conveyor comprising supporting side members uniformly longitudinally and transversely spaced at required intervals apart on said conveyor, each being formed of a series of supporting links having ends adapted for partial pivotal or hinged movement ina plane perpendicular to the transverse axis of the conveyor and only in one angular direction with respect to the longitudinal axis of the conveyor whereby they can be bent in one direction only in effecting folding; cross tie rods or bars connecting opposite links of said side members together; and rollers rotatably mounted between and on each pair of opposite links so as to project thereabove and being located on that side on which said conveyor cannot be bent in folding.

2. A portable conveyor according to Claim 1 whereby each supporting link has a pedestal-like formation between its ends to the top end of which one end of a roller is mounted, and the ends are formed for pivotal connection with complementary shapings on the ends of adjacent links.

3. A portable conveyor according to Claim 2, wherein the pivotal connection of each link is effected by a lug provided at one end and a pair of forks, at the other end, such lug and forks being provided with a connection hole therein the arrangement being such that the lug at one end of a link fits between the forks on one end of an adjacent link, and pivotally connected together as by the ends of tie rods extending transversely of the sides of the conveyor.

4. A portable conveyor according to Claim 3 wherein the upper end portion of an end lug has a stop thereon

adapted to co-act with an abutment arranged within the forks in which said lug is fitted so that a pair or links so connected together can pivot in one direction only that is away from that portion of the conveyor across which the rollers are mounted.

5. A portable conveyor according to Claims 3 or 4 wherein the adjacent ends of a pair of links are connected together by a bolt or the like fitted through the holes in the lug and forks which are engaged.

6. A portable conveyor according to Claim 1 wherein the rollers are each rotatably mounted on an axle affixed at its ends to a pair of oppositely disposed links.

7. A portable conveyor according to Claim 6 wherein a ball bearing unit is arranged at or near each end of the fixed axle for mounting the roller in position.

8. A portable conveyor constructed and adapted for operation substantially as herein described and as illustrated in the accompanying drawings.

DATED this 31st day of October, 1967.

A. & A. CONSTRUCTIONS PTY. LIMITED,
By its Patent Attorneys
CHAS BURNS

13,339/66

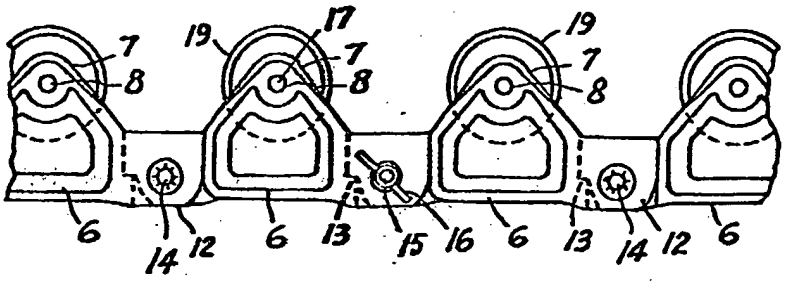

FIG.1.

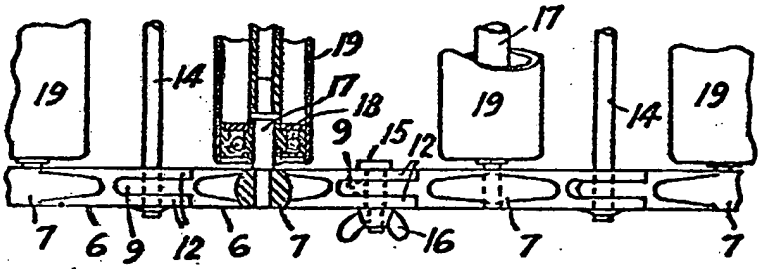

FIG.2.

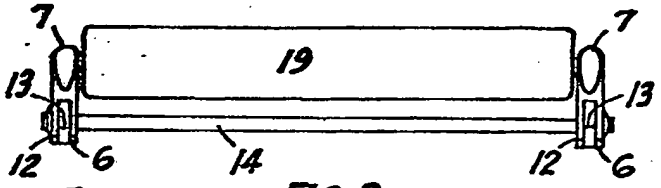

FIG.3.

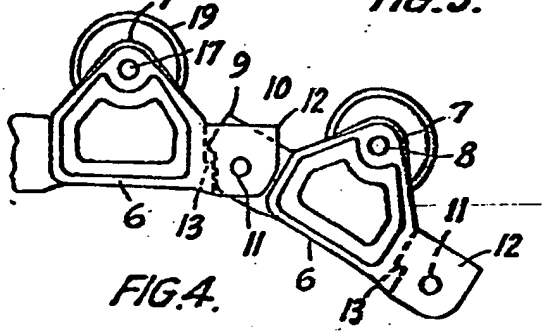

FIG.4.

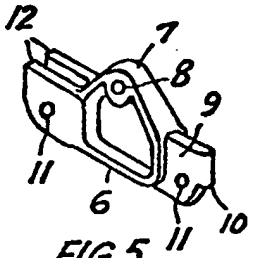

FIG.5.

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